

Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (currently amended) A method for use during ~~the~~ ultrasonic treatment of a cancer in subject tissue, comprising ~~the step of~~:

robotically manipulating an array of two or more ultrasonic treatment probes, that are mechanically focused onto a con-focal region, to sight said con-focal region on at least a portion of a target tumour whose site is determined by ultrasound.

2. (currently amended) A method as claimed in claim 1, further comprising ~~the further step of manipulating the~~ said array to sight on one or more other focal regions of said target tumour.

3. (currently amended) A method ~~or~~ claimed in claim 2, wherein said manipulations are performed as a series of step-wise motions in one plane.

4. (currently amended) A method as claimed in ~~any one of the preceding claims,~~ claim 1, further comprising ~~the further step of~~ determining the site of ~~the~~ said target tumour by ultrasound, prior to ~~the step of~~ said robotically manipulating ~~an~~ said array.

5. (currently amended) A method ~~or~~ claimed in claim 4, wherein ~~the step of~~ said determining ~~the~~ said site of said target tumour includes:

ultrasonically scanning at least a portion of subject tissue in a series of step-wise slices to derive a pseudo three-dimensional representation thereof.

6. (currently amended) A method as claimed in ~~any one of the preceding claims,~~claim 1, ~~further comprising the further step,~~ preceding ~~the step of~~said robotically manipulating ~~an~~said array, ~~of~~by mechanically configuring said array of probes to give a desired convergent con-focal region.

7. (currently amended) A method as claimed in ~~any one of the preceding claims,~~claim 1, ~~further comprising the further step,~~ following ~~the step of~~said robotically manipulating ~~an~~said array, ~~of~~ activating said probes to ablate said portion of ~~the~~said target tumour.

8. (canceled)

9. (currently amended) A method as claimed in claim ~~[[8]]~~ 7, wherein ~~said parameters include one or more of~~ at least one of frequency, power and on-time of said probe are adjusted.

10. (currently amended) A method as claimed in ~~any one of the preceding claims,~~claim 7, ~~further comprising the further initial steps of,~~ defining a safe working envelope for said robotic manipulation ~~step.~~

11. (currently amended) A method as claimed in claim ~~10 when dependent on at least claim 7,~~10, wherein said robotic manipulation is interlocked with said activation such that ~~both steps~~said robotic manipulation and said activation cannot occur simultaneously.

12. (currently amended) A method as claimed in ~~any one of the previous claims~~claim 1, further comprising ~~the further, initial step of~~ locating and orientating ~~the~~said array and a patient relative to each other, such that said target tumour site is within the range of motion of said array.

13. (canceled)

14. (currently amended) Apparatus for the ultrasonic treatment of cancer in subject tissue, comprising:

an array of (i) two or more ultrasonic treatment probes, that are mechanically configurable to be focused onto a desired con-focal region, and (ii) an ultrasonic identification probe;

a robotic manipulator, carrying said array, and operable to move said array and thus sight said con-focal region; and

a programmed controller which operates to activate said probes and ~~said~~ cause motion of said robotic manipulator in a manner such that ~~the~~said ultrasonic identification probe is scanned over at least a portion of ~~the~~said tissue to determine ~~the~~a site of a target tumour, and ~~the~~said treatment probes are sighted such that ~~the~~said con-focal region coincides with at least a portion of ~~the~~said target tumour and are activated to ablate said portion of ~~the~~said target tumour.

15. (currently amended) The apparatus of claim 14, wherein said controller activates said robotic manipulator to sight and operate ~~the~~said treatment probes at other focal regions coinciding with ~~the~~said target tumour.

16. (currently amended) Apparatus as claimed in claim 15, wherein said controller activates said robotic manipulator as a series of step-wise motions in one plane to sight and operate ~~the~~said treatment probes in aggregation to coincide with ~~the~~said target tumour in that plane.

17. (currently amended) Apparatus as claimed in any one of claims ~~14 to 16~~,14, wherein said robotic manipulator operates to cause ~~the~~said identification probe to scan at least a portion of ~~the~~ subject tissue as a series of step-wise slices to derive a pseudo three-dimensional representation thereof.

18. (currently amended) Apparatus as claimed in ~~any one of claims 14 to 17~~,claim 14, wherein said array of probes is mechanically configured to give a desired focal region matching to ~~the determined~~said site of ~~the~~said target tumour.

19. (currently amended) Apparatus as claimed in claim 18, wherein said ultrasonic treatment probes have predetermined parameters ~~determining the thermal dose~~to be applied to said target tumour.

20. (currently amended) Apparatus as claimed in ~~any one of claims 14 to 19~~,claim 14, further comprising a procedure table upon which a subject can lie, having an acoustic window therein at which said subject tissue is sited.

21. (currently amended) Apparatus as claimed in claim 20, wherein ~~the~~said acoustic window is arranged to be aligned with the breast of asaid subject.

22. (currently amended) Apparatus as claimed ~~in any one of the claims 14 to 21~~ in claim 14, wherein said controller ~~is~~ is programmed to define a safe working envelope for the ~~array~~ manipulation.

23. (currently amended) Apparatus as claimed in claim 22, wherein said controller further interlocks said treatment probes and said robotic manipulator so that ~~neither can~~ both cannot be operated simultaneously.

24. (currently amended) A jig array assembly for ultrasonic treatment probes comprising:
a central shaft;
two or more segmented collars, in a stacked manner rotatably of said shaft, and adapted to be fixed in a chosen orientation by ~~fastening means~~ a fastener ;
a respective mounting member extending from each said collar, and providing mounting point, said mounting point lying in a common plane orthogonal to said shaft;
a respective arm attached at the end to a respective mounting point; and
a respective probe holder attached to the other end of each said arm.

25. (currently amended) An assembly as claimed in claim 24, wherein each of said ~~arm~~ respective arms are of chosen lengths.

26. (currently amended) An assembly as claimed in ~~either one of claim 24 or claim 25,~~24, further comprising an identification ultrasonic probe ~~mounting point~~ located at an end of the shaft.